

The Weekly Expositor

J. A. MENNIES, Editor and Prop.

TALE.

MICH.

THE poor king of Siam doesn't seem to know whether he is dead or alive. He and the king of Corea are not having just the pleasantest time in the world.

THE New York police captains were not as glib as the king of Siam in their replies to the officials of Ward McAllister's town might be expected to be. Captain Stephenson, for instance, was bribed with huckleberries.

MR. WILLIAM K. VANDERBILT, being the son of his father, no doubt resents the idea that the public should be made acquainted with his family affairs and outside matter incidental thereto. The public be—

It has been proposed that stations be erected in convenient localities in cities and large towns where physicians may be thoroughly disinfected immediately after they have visited a case of infectious disease, and before paying any further visits.

AS SHOWING how competition is affecting the business of the electric companies, it is noted that a complete trolley car, including two motors, six years ago cost \$1,500; four and a half years ago it cost \$3,500; two years ago, \$2,850; a year ago, \$2,000, and now it can be bought for \$1,000 to \$1,200.

It is difficult to understand the object to which the king of Abyssinia intends to devote the elaborate postage stamps which he is now having engraved and printed in Paris. There is no postoffice and no postal service in Abyssinia, and the Ethiopians have not yet developed the civilized mania for stamp collecting.

A YOUNG woman ranking third in a class of sixty-one members in a Scottish university, who stood first in her class in zoology, practical chemistry, anatomy, history, physiology, surgery, medicine, pathology and midwifery, has just had the honor of bachelor of medicine and master of surgery conferred upon her. She is one of only three women who have had this honor in Scotland.

NO GOLD mine ever discovered on the continent possessed a title of the value discovered in the hitherto unimagined cottonwood; and if well managed and husbanded the place will not give out as those of the gold mines do. It is pointed out, however, that the woodpulp man has begun his ravage in these riparian groves, and that if he is let alone he will destroy them as he does every forest on which he alights.

ONE of the things which it seems difficult for the public mind to grasp is that there is a decided difference between the knot and the mile. It is certainly about time to have it thoroughly understood that the two are not the same thing. It seems easy enough to remember that a mile is only about eighty-seven per cent of a knot, the latter being approximately 6,082 feet in length, while the statute mile measures 5,280 feet.

THE emperor of China has issued a long proclamation declaring his rights as suzerain over Corea and ordering all his maritime provincial governors to "make every effort to fire at the Japanese ships if they come into the harbors and to utterly destroy them." This means war with a vengeance, and in view of their early warning the Japanese will probably keep their ships out of Chinese harbors and thus save the worshipful governors the exertion of "making every effort to fire" at them.

THE proposed change in the fashion of passenger cars, substituting depot platforms for car platforms, may be realized in the next few years. Already the Illinois Central has adopted such platforms for its suburban service. To step from the depot platform to the car as one passes from one room to another without even a threshold to disturb the dignity of the walk seems among the comforts of the near future. The expense of depot platforms would be apt to fall considerably short of that of car platforms. The element of economy will be apt to make the change inviting to railroad managers.

DR. CYRUS EDSON of New York announces a discovery by Dr. Koch of Berlin of a cure for diphtheria which never fails when applied within thirty-six hours. The announcement is made on authority of Dr. Briggs, the bacteriologist of the New York board of health, who was sent to Berlin to investigate this subject. He found between 3,000 and 4,000 well-attested cases that had been cured by this antitoxin. The New York board of health asks an appropriation for the purpose of bringing this remedy into general use in this country. It is probable that the health officers of all our cities will try to secure the new remedy and that it will soon be within reach of all.

A MASSACHUSETTS woman has invented an envelope which it is impossible to open and read without detection. That woman's ingenuity will bring down upon her devoted head the maledictions of all members of her own sex who are married and most of those who hope to be.

THE Canadian Pacific railroad reports a falling-off in receipts in the last six months of about \$1,000,000, showing that the railroads of the states are not alone in feeling the stress of the hard times.

TABERNACLE PULPIT.

"HOLY COMPULSION" AS A SERMON TEXT.

Dr. Talmage Relates Some of His Personal Experiences—Lights and Shadows of a Christian's Life—Luxuries of the Plain People of To-Day.

BROOKLYN, Sept. 16.—Rev. Dr. Talmage, who is still absent on his round-the-world tour, has selected for his sermon through the press for to-day: "Holy Compulsion," the text being Luke 11:23: "And compel them to come in."

The plainest people in our day have luxuries which the kings and queens of olden times never imagined. I walked up and down the stairs of Holyrood palace—a palace that was considered one of the wonders of the world—and I said, "Can it be possible that this is all there was of this reputed wonderful place?" And this is the case in many other instances. There are fruits in Westchester county and on Long Island farms far better than the pomegranates and apricots of Bible times. Through all the ages there have been scenes of festivity, and the wealthy man of my text plans a great entertainment, and invites his friends. If one builds a beautiful home, he wants his acquaintances to come and enjoy it. If one buys an exquisite picture, he wants his friends to come and appreciate it; and it was a laudable thing when the wealthy man of my text, happy himself, wanted to make other people happy. And so the invitations went out; but something went very much wrong. You can imagine the embarrassment of any one who has provided a grand feast when he finds out that the guests invited do not intend to come. There is nothing that so provokes the master of the feast as that.

Well, these people invited to this great banquet of the text made most frivolous excuses. The fact was, I suppose, that some of them were offended that this man had succeeded so much better in the world than they had. There are people in all occupations and professions who consider it a wrong to them that anybody else is advanced. I suppose these people invited to the feast said among themselves, "We are not going to administer to that man's vanity, he is proud enough now; we won't go; beside that, we could all give parties if we made our money the way that man makes his."

So when the messengers went out with the invitations there was a unanimous refusal. One man said, "Oh, I have bought a farm, and I must go and look at it." He was a land speculator, and had no business to buy land until he knew about it. A frivolous excuse. Another man said, "I have bought five yoke of oxen." The probability is he was a speculator in live stock. He ought to have known about the oxen before he bought them. Beside that, if he had been very anxious to get to the feast, he could have hooked them up and driven them on the road there. Another frivolous excuse. Another man said, "Oh, I have married a wife, and I can't come." When he had said to his wife, "I have an invitation to a splendid dinner; it is highly complimentary to me; I should very much like to go; will you go along with me?" she would have said, "To be sure I will go." Another frivolous excuse. The fact was that they did not want to go.

"Now," said the great man of the feast, "I will not be defeated in this matter; I have with an honest purpose provided a banquet, and there are scores of people who would like to come if they were only invited. Here, my man, here, you go out, and when you find a blind man, give him your arm and fetch him in; and when you find a lame man, give him a crutch and fetch him in; and when you find a poor man, tell him that there is a plate for him in my mansion; and when you find some one who is so ragged and wretched that he has never been invited anywhere, then, by the kindest tenderness and the most loving invitation any one ever had, compel him to come in."

Oh, my friends, it requires no acuteness on my part, or on your part, to see in all this affair that religion is a banquet. The table was set in Palestine a good many years ago, and the disciples gathered around it, and they thought they would have a good time all by themselves, but while they sat by the table the leaves began to grow and spread, and one leaf went to the east and another leaf went to the west, until the whole earth was covered up with them, and the clusters from the heavenly vineyard were piled up on the board, and the trumpets and harps of eternity made up the orchestra, and as this wine of God is pressed to the lips of a sinning, bleeding, suffering, dying, groaning world, a voice breaks from the heavens, saying, "Drink, O friends; yea, drink, O beloved! O blessed Lord Jesus, the best friend I ever had, the best friend any man ever had, was there ever such a table? Was there ever such a banquet?"

From the cross uplifted high,
Where the Saviour designs to die,
What melodious sounds I hear
Bursting on the ravished ear!
Heaven's redeeming word is done,
Come, and welcome; sinners, come.

Religion is a joyous thing, I do not want to hear anybody talk about religion as though it were a funeral. I do not want anybody to whine in the prayer meeting about the kingdom of God. I do not want any man to roll up his eyes, giving in that way evidence of his sanctity. The men and women of God whom I happen to know, for the most part, find religion a great joy. It is exhilaration to the body. It is invigoration to the mind. It is rapture to the soul. It is balm for all wounds. It is light for all

darkness. It is a harbor from all storms, and though God knows that some of them have trouble enough now, they rejoice because they are on the way to the congratulations eternal.

I stopped one nightfall, years ago, at Freyburg, Switzerland, to hear the organ of world-wide celebrity in that place. I went into the cathedral at nightfall. All the accessories were favorable. There was only one light in all the cathedral, and that a faint taper on the altar. I looked up into the venerable arches and saw the shadows of centuries, and when the organ awoke, the cathedral awoke, and all the arches seemed to lift and quiver as the music came under them. That instrument did not seem to be made out of wood and metal, but out of human hearts, so wonderfully did it pulsate with every motion; now laughing like a child, now sobbing like a tempest. At one moment the music would die away until you could hear the cricket chirp outside the wall, and then it would roll up until it seemed as if the surge of the sea and the crash of an avalanche had struck the organ pipes at the same moment. At one time that night it seemed as if a squadron of spirits weeping up from earth had met a squadron of descending angels whose glory back the woe. Standing there and looking at the dim taper on the altar of the cathedral, I said: "How much like many a Christian's life! Shadows hover, and sometimes his hope is dim, and faint, and flickering, like a taper on the altar. But at what time God wills, the heavens break forth with music upon his soul, and the air becomes resonant as the angels of God beat it with their shining scepters."

Oh, the Lord God has many fair and beautiful daughters; but the fairest of them all is she whose ways are pleasantness and whose paths are peace. Now, my brothers and sisters—for I have a right to call you also—I know some people look back on their ancestral line, and they see they are descended from the Puritans or Huguenots, and they rejoice in that; but I look back on my ancestral line, and I see therein such a mingling and mixture of the blood of all nationalities that I feel akin to all the world, and by the blood of the Son of God, who died for all people, I address you in the bonds of universal brotherhood. I come out as only a servant, bringing an invitation to a party, and I put it into your hand, saying, "Come, for all things are now ready," and I urge it upon you and continue to urge it, and, before I get through, I hope, by the blessing of God, to compel you to come in.

We must take care how we give the invitation. My Christian friends, I think some times we have just gone opposite to Christ's command, and we have compelled people to stay out. Some times our elaborated instructions have been the hindrance. We graduate from our theological seminaries on stilts, and it takes five or six years before we can come down and stand right beside the great masses of the people, learning their joys, sorrows, victories, defeats. We get our heads so brimful of theological wisdom that we have to stand very straight lest they spill over. Now, what do the great masses of the people care about the technicalities of religion? What do they care about the hypothetical union or the difference between sub-lapsarian and supra-lapsarian? What do they care for your profound explanations, clear as a London fog? When a man is drowning he does not want you to stand by the dock and describe the nature of the water into which he has fallen, and tell him there are two parts hydrogen gas and one of oxygen gas, within common density of thirty-nine Fahrenheit, turning to steam under a common atmospheric pressure of two hundred and twelve. He does not want a chemical lecture on water; he wants a rope.

Oh, my friends, the curse of God on the church, it seems to me in this day, is metaphysics. We speak in an unknown tongue in our Sabbath schools, and in our religious assemblies, and in our pulpits, and how can people be saved unless they understand us? We put on our official robes, and we think the two silk balloons flapping at the elbows of a preacher give him great sanctity. The river of God's truth flows down before us pure and clear as crystal; but we take our theological stick and stir it up, and stir it up, until we can not see the bottom. Oh, for the simplicity of Christ in all our instructions—the simplicity he practiced when standing among the people he took a lily, and said, "There is a lesson of the way I will clothe you;" and, pointing to a raven, said, "There is a lesson of the way I will feed you; consider the lilies—behold the fowls."

I think often in our religious instructions we compel people to stay out by our church architecture. People come in and they find things angular, and cold, and stiff, and they go away never again to come; when the church ought to be a great home circle, everybody having a hymn book, giving half of it to the one next to him, every one who has a hand to shake hands, shaking hands—the church architecture and the church surroundings saying to the people, "Come in and be at home." Instead of that, I think all these surroundings often compel the people to stay out. Now, let us all repeat of our sins and begin on the other track, and by our heartiness of affection, and warmth of manner, and imploration of the Spirit of God, compel the people to come in. How shall we lead sinners to accept the Lord's invitation? I think we must certainly begin by a holy life. We must be better men, better women, before we can compel the people to come into the kingdom of Jesus Christ. There are fine essays being written in this day about science and religion. I:11

you the best argument in behalf of our holy Christianity: It is a good man, a good woman, a life all consecrated to Christ. No infidel can answer it. Oh, let us by a holy example compel the people to come in.

I read of a minister of the gospel who was very fond of climbing among the Swiss mountains. One day he was climbing among very dangerous places, and thought himself all alone, when he heard a voice beneath him say, "Father, look out for the safe path, I am following;" and he looked back and he saw that he was climbing not only for himself, but climbing for his boy. O, let us be sure and take the safe path! Our children are following, our partners in business are following, our neighbors are following, a great multitude stepping right on in our steps. O, be sure and take the right path! Exhibit a Christian example, and so by your godly walk compel the people to come in.

I think there is also work in the way of kindly admonition. I do not believe there is a person in this house who, if approached in a kindly and brotherly manner, would refuse to listen. If you are rebuffed, it is because you lack in tact and common sense. But oh, how much effective work there is in the way of kindly admonition! There are thousands of men all round about you who have never had one personal invitation to the cross. Give that one invitation, and you would be surprised at the alacrity with which they would accept it.

I tell you to-day, my friends, of a great salvation. Do you understand what it is to have a Saviour? He took your place. He bore your sins. He wept your sorrows. He is here now to save your soul. A soldier, worn out in his country's service, took to the violin as a mode of earning his living. He was found in the streets of Vienna, playing his violin, but after a while his hand became feeble and tremulous, and he could no more make music. One day, while he sat there weeping, a man passed along and said, "My friend, you are too old and too feeble; give me your violin," and he took the man's violin, and began to discourse most exquisite music, and the people gathered around in larger and larger multitudes, and the aged man held his hat, and the coin poured in and poured in until the hat was full. "Now," said the man who played the violin, "put that coin in your pocket, etc." The coin was put in the old man's pockets. Then he held his hat again, and the violinist played more sweetly than ever, and played until some of the people wept and some shouted. And again the hat was filled with coin. Then the violinist dropped the instrument and passed off, and the whisper went, "Who is it? who is it?" and some one just entering the crowd said, "Why, that is Luther, the great violinist, known all through the realm; yes, that is the great violinist." The fact was, he had just taken that man's place and assumed his poverty, and borne his burden, and played his music, and earned his livelihood, and made sacrifice for the poor old man. So the Lord Jesus Christ comes down, and he finds us in our spiritual poverty, and across the strings of his own broken heart he strikes a strain of infinite music, which wins the attention of earth and heaven. He takes our poverty. He plays our music. He weeps our sorrow. He dies our death. A sacrifice for you. A sacrifice for me.

Oh, will you accept this sacrifice now? I do not single out this and that man, and this and that woman. But I say all may come. The sacrifice is so great, all may be saved. Does it not seem to you as if heaven was very near? I can feel his breath on my cheek. God is near, Christ is near. The Holy Spirit is near. Ministering angels are near. Your glorified kindred in heaven near. Your glorified mother near. Your departed children near. Your redemption is near.

PAPER POLES.

They Are Lighter, Stiffer and Stronger Than Wooden Ones.

One of the latest uses to which paper has been turned is the making of telegraph poles. The paper pulp employed is saturated with a mixture of borax, tallow and other substances. The mass is cast in a mold with a cone in the center, forming a hollow rod of any desired length, the cross pieces being held by wooden keys driven in on either side of the pole. The paper poles are said to be lighter and stronger than those of wood and to be unaffected by the many weather influences which shorten the life of a wooden pole.

It is doubtful, however, whether the paper pole will come to be anything like a rival to the iron pole, which is now high in favor for the carrying of all kinds of wire lines. The value of iron telegraph poles has been well tested under the most trying conditions on the lines between Europe and India, and again across arid stretches of country in Australia. Insects that eat out the core of everything in the shape of wood, leaving the shell only, and bird borers that drill holes in the toughest of trees, let the iron poles pass, and even wandering tribes cannot chop it up for fire-wood, although down in Australia they have not yet quite got over their trick of making arrow heads of the insulators it carries.

Buried in the Same Grave.

In the violet calm of evening, just as dusk was deepening into darkness, and the pall of night was settling over the world, she spurned his suit. "No," she said calmly but firmly. "Then I will be avenged," he hissed. Presenting her little brother with a toy pistol he swallowed a phial of prussic acid. They were buried in the same grave.

SCIENTIFIC MATTERS.

NEW INVENTIONS AND DISCOVERIES.

A Machine for Registering Both the Movements of Employers and Employees—How the Intensity of Light Is Measured.

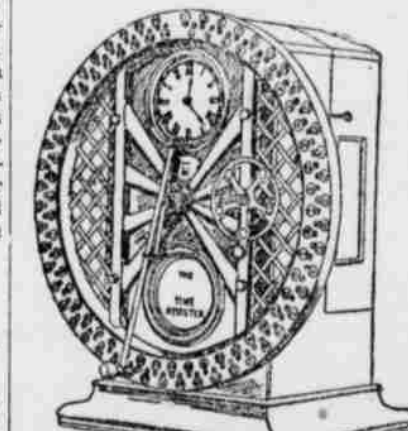
The latest device for registering time of employees is that controlled by the Dey Patents Company of Syracuse, N. Y., says the New York Tribune. The machine is extremely simple and stands in the same relation to the movements of each individual connected with a business as a cabinet letter-file and copying book does towards the letters which go from and come to that house by mail. Each individual has his own number. When he goes out or comes in he brings the lever in front of his number on the dial, presses his thumb, a bell rings and the record made.

The importance of this machine can hardly be estimated. In the first place it is an educational force; it brings every one face to face with time. A great many employees for their own sake need such a monitor, and very often it is the head of the house that needs it most. Time slips



Charles Dey.

away and escapes. Why not record, file the record and analyze it? Suppose that any large house in New York City should make this experiment. Say there are 100 individuals to a concern, including the president of the corporation, or, in case of a partnership, the senior partner, down to the porters and errand boy. Every one registers for the period of one week. At the end of this week the record supplied by the Time Register is analyzed and studied. What a load lifted from the hands of those responsible for the conduct of the business! The conditions, formerly vague, are now fixed and certain. The amount of time each individual is putting in, just where he has been, just what he has been doing, is so well in hand that the conduct of that business can be managed by an able executive with from three to four times as much energy as under the old condition. For, it must be remembered that the use of a Time Register involves no distrust whatever between master and employee. Every good business man knows that his employees are trying to earn their money and to keep their places. He does not distrust their loyalty or their zeal; he distrusts their judgment and their ability to make the best use of their time. Had they the same judgment and ability as himself they would not be employees, but employers of labor. Now, how can a business man teach an employee to make the best use of his time without knowing the exact use he is making of it? But what question? There must be a basis for asking these



The Dey Time Register.

questions. This basis is furnished by the records of the Time Register. Armed with these, the executive hand can put just those queries which are most crucial, can satisfy himself absolutely with regard to every movement which has been made during the day, week or month and can do justice to the employee and to the business for which he is responsible and for which the employee is responsible. In a word, he has the materials for a bird's-eye view of everything which has been done, is being done and which shall be done.

How the Intensity of Light Is Measured.

The measurement of the intensity of light is called photometry, and the instruments used photometers, from the Greek phos light, and metron measure. The methods by which the intensity is measured are mostly based upon the fact that it is easy to approximately detect by the eye when two similar surfaces are equally illuminated, says London Tit-Bits. The illumination on a given area of a screen from any light is inversely proportional to the square of the distance between the light and the screen, and this is the foundation of all photometric calculations. Rumford's photometer consists of a screen with a cylindrical rod placed a short distance away. Each of the two lights which are to be compared throws a shadow of this rod on the screen, and the lights are moved until the two shadows are equally illuminated. The ratio of the two lights is obtained by calculating the distances of each from the screen, and taking the ratio of the squares; naturally, the brighter light is the farther away. Rumson's photometer consists of a screen made of two parts, the one being more transparent

than the other. The old form was a paper screen with a grease spot. The grease spot, however, was found to be rather unsatisfactory, so, instead of this, a screen consisting partly of one and partly of two thicknesses of crown glass has been used. Many other photometers have been introduced in recent years with the special object of testing the illuminating power of are lamps. It is usual to give the illuminating power of any source in terms of the standard candle, the standard candle being made of spermaceti, weighing one-sixth of a pound, and burning 120 grains of material per hour. An Argand gas-burner is, however, generally held as the official test-burner for gas.

What Is the Ether?

The attempt to explain the nature of ether or of the matter at once raises the question whether ether is matter. Now, of course, a great deal depends upon the definition of terms, and it is perhaps best to confine our attention at first to the structure of matter rather than its nature. The properties and behavior of matter as it is ordinarily recognized are largely known, and it is only a question of the propriety or possibility of including both in one general view. Clerk Maxwell regards as a proper test of a material substance its ability to contain and transmit energy. He then points out that energy cannot exist except in connection with matter, and that in the space between the sun and the earth, the luminous and thermal radiations which have left the sun and which have not reached the earth possess energy in a definitely measurable amount, and therefore this energy must belong to matter in the inter-planetary spaces. (On the other hand, Prof. Dolbear stands as an exponent of the views of others who decline to class the ether when he says: "If, then, the ether fills the space, is not atomic in structure, presents no friction to bodies moving through it, and is not subject to the law of gravitation, it does not seem proper to call it matter." But Prof. Dolbear has previously announced as his criterion of matter, the possession of property of gravitational attraction. On such grounds we may decide each view to be correct, but we are brought at once to the old question, "What is matter?"—Popular Science Monthly.

Machinery Driven by Mouse Power.

A gentleman in Scotland has trained a couple of mice and invented machinery for enabling them to spin yarn. The work is done on the treadmill principle. It is so constructed that the common house mouse is enabled to make atonement to society for past offenses by twisting and reeling from 100 to 120 threads per day. To complete it the little pedestrian has to run 10½ miles. This journey it performs every day with ease. An ordinary mouse weighs only half an ounce. A halfpenny worth of oatmeal at 1s. 3d. the peck serves one of these treadmill culprits for the long period of five weeks, says London Tit-Bits. In that time it makes 110 threads per day, being an average of 3,850 threads of 55 inches, which is nearly nine lengths of the reel. A penny is paid to women for every cut in the ordinary way. At this rate a mouse earns 3d. every five weeks, which is one farthing per day, or 7s. 6d. per annum. Take 6d. off for board, and 1s. for machinery, there will arise 6s. clear profit from the mouse yearly. The mouse employer is going to make application for the lease of an old empty house, the dimensions of which are 100 feet by 50 feet and fifty feet in height, which, at a moderate calculation, will hold 10,000 mouse mills, sufficient room being left for keepers and some hundreds of spectators. Allowing £200 for roof and taskmasters, £10,000 to erect machinery and £500 for the interest, there will be left a balance of £2,300 per annum.

Electrically-Propelled Vehicles.

It is a long time since experiments were first begun in connection with electric vehicles for use on an ordinary street or hard road, but it is only recently that they have been carried to a point of success. The difficulty has not been to get a vehicle that could be moved along the streets at any desired rate of speed and in any desired direction, but in supplying the motive power at a price that would permit successful competition with horseflesh. The difficulty is now said to have been overcome. New types of batteries have been introduced which take up little room and which may be kept charged at a small expense, with sufficient power to meet all the necessities of the case. For the new vehicles it is claimed that they can be propelled along the thoroughfares at any rate of speed that may be desired and without making any noise. No difficulty is experienced in making them thread their way among the mass of other vehicles or in keeping them under perfect control. Those already built have broad tires, but it is proposed to introduce pneumatic tires, which will be lighter and more satisfactory.—The Electrical Review.

An Enormous Gun Scale.

The Watervliet arsenal has just turned out what is said to be the largest scale in the world. It is made for weighing guns, and has a capacity of 150 tons. Nowadays results are secured by accuracy, and whether one wants a gun or gunpowder it is necessary to know precisely how much of every ingredient in its composition is needed. Careful weighing and measuring insures uniformity in product, and saves a great deal of time, vexation and uncertainty, to say nothing of cost. The consequences of this increased attention to details is much higher grade goods and no uncertain or experimental articles to be thrown back on the makers' hands as useless.

A Mechanical Fluid.

An ingenious device is the invention of C. W. Hunt, an American engineer. It is a mass of hard steel balls of two sizes, one eighth and one-fourth of an inch in diameter, respectively. Under pressure this mass moves and transmits pressure in all directions like a fluid. The device is calculated for use wherever fluid pressure is desired without leakage, and it has already been employed for tightening the brasses of connecting rods, a pocket at the side being filled with the balls and pressure applied with a set screw.—Engineering.